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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,463

08/16/2006

Victor De Leeuw

NOR-1263

7474

37172

7590

04/10/2009

WOOD, HERRON & EVANS, LLP (NORDSON)

2700 CAREW TOWER

441 VINE STREET

CINCINNATI, OH 45202

EXAMINER

HEPPERLE, STEPHEN M

ART UNIT

PAPER NUMBER

3753

NOTIFICATION DATE

DELIVERY MODE

04/10/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

krooney@whepatent.com

mhines@whepatent.com

usptodock@whepatent.com

Office Action Summary	Application No. 10/564,463	Applicant(s) DE LEEUW, VICTOR	
	Examiner Stephen M. Hepperle	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-26 is/are allowed.
- 6) ☒ Claim(s) 8-18, 27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The final rejection of 16 December 2008 omitted claim 28. The action of 19 March 2009 corrected that error and resets the time for response, but another amendment was received 16 March 2009. In the interest of clarifying prosecution, all previous final rejections are withdrawn and this action will treat the claims filed 16 March 2009.

Claims 1-7 have been cancelled. Claims 8-28 remain pending.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Patterson (5,234,026). Patterson shows a pressure regulator with a piston 18 sealing against cylinder 15, and connected to a valve 37, 39 and stem 33. The valve is biased closed by spring 34. A second partial volume includes cylindrical chamber 52, intermediate portion 58, and outlet portion 40, 53. With respect to applicant's arguments, the combined stem and valve 33 (Patterson Fig. 4), because they appear to be integrally formed, are permanently engaged. Alternatively, piston rod 33 is seen to engage valve 37 (Fig. 4). The bottom of the valve is exposed to outlet pressure. Regarding claim 15, note cover 14, which has an opening at the top. Regarding claim 10, the o-ring 25 is seen as the recited guide. The method of claim 27 is seen as performed by Patterson. Regarding claim 28, rod 33 is slightly moveable with respect to second piston 18 (col. 4, lines 56-64). This was not noticed at the interview of 19 March 2009.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-16, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Semon (3,643,683) alone or in view of Patterson. Semon shows a regulator with a first partial volume surrounding first piston (valve) 13, seat 8 leading to a second partial volume, and a diaphragm C connected to the valve by a piston rod 14 that can move independent of the valve. Movement of the diaphragm causes a change in the second partial volume which includes chamber 7. It is notoriously well known to use a piston actuator in a pressure regulator instead of a diaphragm. Paterson teaches a piston 18. It would have been obvious to replace the diaphragm actuator of Semon with a piston because of the known equivalence, and to reduce leakage in case of seal failure (a piston o-ring will leak less than a ruptured diaphragm) and to increase the pressure capability of the device. Alternatively, it would have been obvious in view of Paterson to replace the diaphragm with a piston for the same reasons. Regarding claims 10-11, Semon shows a separate valve guide 20 holding a biased closed valve 13. The guide and valve are exposed to outlet pressure. The Semon valve is biased closed by spring 13a (claim 12). Regarding claim 16, it would have been obvious to provide Semon with a vent hole for chamber 25 as such is well known in the regulator art to keep a reference pressure, and to either place a dust cover over the hole or use the cap 36 as a dust cap to prevent inadvertent entry of dirt or liquids. The method of claim 27 is seen as inherent to Semon alone or in view of Patterson.

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Claims 8-16, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson in view of Semon. It would have been obvious to provide a piston rod separate from the valve head in Patterson as shown by Semon (rod 14 and valve 5) to allow some movement of the valve relative to the pin to aid valve alignment on its seat. Regarding claims 10-11, it would have been obvious to form a separate guide for the bottom of the Patterson valve as an alternative construction and to permit replacement of a worn guide without replacing the entire housing, as shown by Semon (guide 20). Regarding claims 27-28, the rod is also movable with respect to the diaphragm/piston at the top of the pin.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Semon alone or in view of Patterson further in view of Ono (5,159,952). Ono teaches the use of a ceramic valve seat in a pressure regulator. It would have been obvious to provide Semon with a ceramic seat as taught by Ono for wear and corrosion resistance.

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Semon alone or in view of Patterson, further in view of Armstrong (2,105,681). Armstrong shows a pointer 26 on a piston stem extending above a valve housing. It would have been obvious in view of Armstrong to extend a rod above the Semon piston through an opening through the top of the cover 14 and attach a screw as a pointer to indicate the piston position. The use of an ordinary screw would avoid making a special pointer.

Claims 17-18 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson in view of Semon, further in view of Armstrong (2,105,681). Armstrong shows a pointer 26 on a piston stem extending above a valve housing. It would have been obvious in view of Armstrong to extend a rod above the Paterson piston through an opening through the top of

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the cover 14 and attach a screw as a pointer to indicate the piston position. The use of an ordinary screw would avoid making a special pointer.

Claims 19-26 are allowed.

Applicant's arguments filed 16 march 2009 have been fully considered but they are not persuasive. As stated above, the Peterson piston stem can move with respect to the piston, and the second partial volume is variable by movement of piston 18. Similarly, the Semon chamber enclosed by wall 7 is variable in size.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Hepperle whose telephone number is 571-272-4913. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. Hepperle/
Primary Examiner, Art Unit 3753